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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/534,327	05/09/2005	Stefano Ambrosius Klinke	112740-1075	4925
29177 7590 04/21/2008 BELF., BOYD & LLOYD, LLP P.O. BOX 1135 CHICAGO, IL 60690				
EXAMINER				
SAINT CYR, LEONARD				
ART UNIT		PAPER NUMBER		
2626				
MAIL DATE		DELIVERY MODE		
04/21/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/534,327

Applicant(s)

KLINKE ET AL.

Examiner

LEONARD SAINT CYR

Art Unit

2626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 7 - 12 have been considered but are moot in view of the new ground(s) of rejection.

Applicant argues that Jax et al., do not teach a memory unit that stores a reference table that includes at least one parameter value for the bandwidth expansion for at least two net bit rates of the narrowband speech signal (Amendment, pages 4, and 5).

The examiner agrees, but this limitation is now rejected in view of Thyssen. See claim rejection below.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 7 – 12 are rejected under 35 U.S.C. 102(a) as being anticipated by Thyssen (US Patent 6,480,822).

As per claim 7, Thyssen teaches a communication device, comprising:
a bandwidth expansion device for expanding a bandwidth of a narrowband speech signal at its low-frequency and/or high-frequency end by synthesis of at least

one frequency band contained within said narrowband speech signal ("bandwidth expansion"; col.11, lines 65 – 67; col.7, line 40) and

a memory unit, communicatively coupled to said bandwidth expansion device, wherein said memory device stores a reference table that includes at least one parameter value for the bandwidth expansion for at least two net bit rates of the narrowband speech signal ("a table or other index that lists the energies for each codebook vector..."; col.2, lines 58 – 64; col.18, lines 50 – 55).

As per claim 8, Thyssen further discloses that the reference table includes data relating to the energy in a synthesized frequency band and of a spectral structure of the synthesized frequency band ("a table or other index that lists the energies..."; col.2, lines 58 – 64; col.12, lines 13, and 14).

As per claim 9, Thyssen teaches a method for expanding a bandwidth of a narrowband speech signal for a communication terminal, comprising:

a) detecting a net bit rate of the narrowband speech signal of the communication terminal (col.18, lines 50 – 55).;

b) accessing a memory that includes a reference table which includes associations between at least two net bit rates and parameter values for bandwidth expansion, in order to determine the at least one parameter value which is suitable for the detected net bit rate ("a table or other index that lists the energies for each codebook vector..."; col.2, lines 58 – 64; col.18, lines 50 – 55);

c) expanding the bandwidth by means of a bandwidth expansion device on the basis of the parameters determined for a current bit rate in step b ("bandwidth expansion"; col.11, lines 65 – 67; col.7, line 40).

As per claim 10, Thyssen further discloses the reference table takes account, as parameters, of the energy of a synthesized frequency band, and a spectral structure of the synthesized frequency band.

As per claim 11, Thyssen further discloses the energy of the synthesized frequency band decreases as the net bit rate decreases ("residual energy and target signal energy..."; col.33, lines 42 – 55).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Thyssen (US Patent 6,480,822).

As per claim 12, Thyssen does not specifically teach that the spectral structure of the synthesized frequency band takes account of the probability of occurrence of artifacts at specific frequencies in the narrowband speech signal. However, since

Thyssen teaches that during non-speech with slow variations in the spectral envelope, smoothing is applied to reduce unwanted spectral variations. Unwanted spectral variations could typically occur due to the estimation of the LPC parameters and LSF quantization (col.17, lines 25 – 32). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to determine probability of occurrence of artifacts at specific frequencies, because that would help reduce unwanted spectral variations (col.17, lines 29, and 30).

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LEONARD SAINT CYR whose telephone number is (571)272-4247. The examiner can normally be reached on Mon- Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (571) 272-7602. The fax phone number for the organization where this application or proceeding is assigned is (571)-273-8300.

Art Unit: 2626

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LS

04/15/08

/Richemond Dorvil/

Supervisory Patent Examiner, Art Unit 2626